

The listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

Claims 1-52 (canceled).

Claim 53 (currently amended): A single chain class II MHC molecule comprising:  
a peptide-binding groove and  
covalently linked in sequence: 1) a class II  $\beta$  chain, 2) a single chain linker, and 3) a class II  $\alpha$  chain,  
wherein the chain of both 1) and 3) lack a transmembrane domain; and further wherein the single chain class II MHC molecule is empty.

Claim 54 (previously added): The MHC molecule of claim 53, wherein the MHC molecule is soluble.

Claim 55 (previously amended): The MHC molecule of claim 53, wherein the chain of 1) comprises a  $\beta 1$  domain and the chain of 3) comprises an  $\alpha 1$  domain.

Claim 56 (canceled).

Claim 57 (previously amended): The MHC molecule of claim 53, wherein the single chain linker is linked between the carboxyl terminus of the  $\beta$  chain and the amino terminus of the  $\alpha$  chain.

Claim 58 (previously amended): The MHC molecule of claim 53, wherein the  $\beta$  and  $\alpha$  chains are each independently selected from the group consisting of IE, IA, DR, DQ and DP proteins.

Claim 59 (canceled):

Claim 60 (previously amended): The MHC molecule of claim 53 wherein the MHC molecule is modified to carry a detectable tag.

Claim 61 (previously amended): A multivalent MHC complex comprising two or more linked MHC molecules of claim 53.

Claim 62 (previously amended): A MHC complex of claim 61 wherein the MHC molecules are linked to immunoglobulin domains.

Claim 63 (previously amended): A MHC complex of claim 61 wherein the MHC complex is modified to carry a detectable tag.

Claims 64-65 (cancelled).

Claim 66 (previously amended): A single chain MHC class II-peptide complex comprising:  
a peptide-binding groove;  
covalently linked in sequence: 1) a class II  $\beta$  chain, 2) a single chain linker, and 3) a class II  $\alpha$  chain, wherein the chain of both 1) and 3) lack a transmembrane domain; and  
a presenting peptide being covalently linked to the MHC molecule and non-covalently bound to the peptide binding groove of the MHC molecule.

Claim 67 (previously amended): The MHC complex of claim 66, wherein the complex is soluble.

Claim 68 (previously amended): The MHC complex of claim 66, wherein the chains of 1) and 3) comprise a  $\beta 1$  domain and  $\alpha 1$  domain, respectively.

Claim 69 (previously amended): The MHC complex of claim 66, wherein the MHC class II molecule comprises the presenting peptide covalently linked to the  $\beta$  chain.

Claim 70 (cancelled).

Claim 71 (previously amended): The MHC complex of claim 66, wherein a presenting peptide linker sequence is interposed between the presenting peptide and the MHC molecule.

Claim 72 (previously amended): The MHC complex of claim 66, wherein the  $\beta$  and  $\alpha$  chains are each independently selected from the group consisting of IE, IA, DR, DQ and DP proteins.

Claim 73 (previously amended): The MHC complex of claim 66, wherein the MHC molecule is modified to carry a detectable tag.

Claim 74 (previously amended): A multivalent MHC complex comprising two or more linked MHC molecules of claim 66.

Claim 75 (previously amended): The MHC complex of claim 74, wherein the MHC molecules are linked to immunoglobulin domains.

Claim 76 (previously amended): The MHC complex of claim 74, wherein the MHC complex is modified to carry a detectable tag.

Claims 77-87 (cancelled).

Claim 88 (New) A loaded single chain MHC class II-peptide complex comprising:  
a peptide-binding groove;

covalently linked in sequence: 1) a class II  $\beta$  chain, 2) a single chain linker, and 3) a class II  $\alpha$  chain, wherein the chain of both 1) and 3) lack a transmembrane domain; and a presenting peptide being non-covalently linked to the MHC molecule and non-covalently bound to the peptide binding groove of the MHC molecule, wherein the loaded single chain MHC class II-peptide complex can be recognized by a CD4+ T cell.

Claim 89 (New): The MHC complex of claim 88, wherein the MHC molecule is soluble.

Claim 90 (New): The MHC complex of claim 88, wherein the chain of 1) comprises a  $\beta 1$  domain and the chain of 3) comprises an  $\alpha 1$  domain.

Claim 91 (New): The MHC complex of claim 88, wherein the single chain linker is linked between the carboxyl terminus of the  $\beta$  chain and the amino terminus of the  $\alpha$  chain.

Claim 92 (New): The MHC complex of claim 88, wherein the  $\beta$  and  $\alpha$  chains are each independently selected from the group consisting of IE, IA, DR, DQ and DP proteins.

Claim 93 (New): The MHC complex of claim 88 wherein the MHC molecule is modified to carry a detectable tag.

Claim 94 (New): A multivalent MHC complex comprising two or more linked MHC complexes of claim 88.

Claim 95 (New): The multivalent MHC complex of claim 94 wherein the MHC complexes are linked to immunoglobulin domains.

Claim 96 (previously amended): A multivalent MHC complex of claim 94 wherein the MHC complex is modified to carry a detectable tag.